

Mr. Koonce also testified that Dominion's second stage of construction, power cable installation, also could take longer than originally anticipated.³⁷⁹ Based upon information from a cable installation company, power cable installation was estimated to take approximately 12 months to complete.³⁸⁰ However, depending on when cable installation begins, Mr. Koonce said it could take 24 to 36 months to complete, or even longer if the trenching production rate drops or if VDOT imposes restrictions on the schedule for daily construction operations.³⁸¹

Mr. Koonce's Rebuttal Schedule 2, which depicts the construction durations and overlaps for the I-66 Hybrid Alternative Route and the proposed I-66 Overhead Route,³⁸² shows that construction of the I-66 Hybrid Alternative Route would take approximately 32 months, which Mr. Koonce described as the "[a]bsolutely best-case scenario" during the June 22 hearing.³⁸³

Mr. Koonce also responded to Staff witness McCoy's claim that underground construction is "at best, inconvenient."³⁸⁴ According to Mr. Koonce, there are additional construction impacts of underground transmission lines as compared to overhead transmission lines.³⁸⁵ He said that underground construction (i) significantly impacts public ROWs, such as roads, during construction; (ii) creates more dust and noise; (iii) requires greater excavation than overhead construction, which creates more material that must be hauled offsite; (iv) complicates the ability to get large pre-cast manholes on site or cast manholes on site given the severely constricted area where the I-66 Hybrid Alternative Route would be located; and (v) creates significant noise 24 hours a day during directional boring, which caused the Company to install hay bales to deaden the sound of boring equipment when installing its Garrisonville underground transmission line.³⁸⁶

In addition to the undesirable impacts of underground construction cited above, Mr. Koonce also noted that the Company saw significant cost overruns with its Garrisonville underground transmission line, and he said it took 14 more months to complete than the Company's original estimate.³⁸⁷

Mr. Koonce also responded to Staff witness Joshipura's testimony, which acknowledged that the I-66 Hybrid Alternative Route is more expensive and may require more construction time but said the underground route is a viable alternative to the proposed I-66 Overhead Route and is economically feasible.³⁸⁸ While Mr. Koonce did not disagree with Mr. Joshipura's testimony, he said there are other reasons why the I-66 Hybrid Alternative Route is undesirable, including:

³⁷⁹ *Id.* at 7.

³⁸⁰ *Id.*

³⁸¹ *Id.*

³⁸² *Id.* at Rebuttal Schedule 2.

³⁸³ June 22 Tr. 561.

³⁸⁴ See Ex. 17 (McCoy Direct) MAE Report at 6-7.

³⁸⁵ Ex. 46 (Koonce Rebuttal) at 8.

³⁸⁶ *Id.* at 8-9. Mr. Koonce also said it was unlikely a similar sound barrier could be installed for the I-66 Hybrid Alternative Route because of space constraints. Ex. 46 (Koonce Rebuttal) at 8.

³⁸⁷ *Id.* at 9-10. Dominion estimated it would take 36 months to complete the Garrisonville underground transmission line, but it took 50 months to complete the line, a nearly 40% overrun.

³⁸⁸ *Id.* 10-13.

(i) underground transmission lines are less reliable than overhead lines; (ii) it is more difficult to locate a problem on underground transmission lines than overhead lines; (iii) on average, it takes weeks to repair problems on underground transmission lines versus hours for overhead lines; (iv) outage times are lower on overhead lines because circuit breakers open and reclose automatically if the line has not been damaged, while automatic reclosing is not permitted on underground lines; and (v) underground lines add operating restrictions to the electric system when power usage is low and capacitance causes system voltage increases.³⁸⁹

If, however, the Commission approves the I-66 Hybrid Alternative Route, Mr. Koonce recommended two adjustments to the route.³⁹⁰ First, he noted that the route alignment on the south side of I-66 just west of Old Carolina Road appears to be unbuildable based on the available space between the new VDOT sound wall and the limits of VDOT's ROW.³⁹¹ He, therefore, recommended changing the 90 degree bored crossing of I-66 to a diagonal horizontal directional drilling crossing that includes both Old Carolina Road and I-66.³⁹² He also recommended that the Walmart Variation be approved for the I-66 Hybrid Alternative Route based on the multiple 90 degree angles in the underground route presented in the Company's Application.³⁹³

Harold Payne presented rebuttal testimony describing how Dominion recovers its transmission costs as a member of PJM. Mr. Payne testified that effective May 1, 2005, Dominion integrated into PJM, with PJM assuming operational control of the Company's transmission facilities.³⁹⁴ As a member of PJM, Dominion obtains NITS from PJM and pays PJM for such service at the rates contained in PJM's Open Access Transmission Tariff ("PJM OATT").³⁹⁵ According to Mr. Payne, the costs of the Haymarket transmission facilities would be recovered under Attachment H-16 of the PJM OATT, which is a formula rate that is populated by Dominion on an annual basis to produce an Annual Transmission Revenue Requirement ("ATTR") associated with the Company's transmission facilities.³⁹⁶ The ATTR is then collected from appropriate NITS customers in the Dominion Zone and credited back to the Company.³⁹⁷

Mr. Payne further testified that since the Haymarket Project has been classified as a Supplemental Project by PJM, the cost of the Project is not eligible for regional cost allocation under the PJM OATT.³⁹⁸ Rather, the costs of the Haymarket transmission facilities would be recovered from NITS customers in the Dominion Zone on a load ratio share basis.³⁹⁹ Dominion's Virginia jurisdictional share of the ATTR is then recovered through a combination of the Company's base rates and a rate adjustment clause, as authorized by § 56-585.1 A 4 of the Code.⁴⁰⁰

³⁸⁹ *Id.*

³⁹⁰ *Id.* at 13-14.

³⁹¹ *Id.* at 13.

³⁹² *Id.*

³⁹³ *Id.*

³⁹⁴ Ex. 47 (Payne Rebuttal) at 1.

³⁹⁵ *Id.* at 2.

³⁹⁶ *Id.*

³⁹⁷ *Id.*

³⁹⁸ *Id.*

³⁹⁹ *Id.*

⁴⁰⁰ *Id.* at 3.

Mr. Payne also testified that the Staff's suggestion that the Customer could be required to make a payment for undergrounding the transmission line could result in disparate treatment between large block load customers, such as data centers, and a transmission dependent utility ("TDU") requesting a new PJM point of delivery.⁴⁰¹ Since Dominion's retail tariff provisions do not apply to wholesale customers, a TDU requesting a new point of delivery would only pay its load ratio share of costs for undergrounding a transmission line and all other NITS customers in the Dominion Zone would pay the balance of the undergrounding costs.⁴⁰² However, if the Customer in this case is assessed a large capital contribution to underground the Haymarket transmission line, as suggested by Staff, the Customer would pay all of the incremental costs associated with undergrounding the transmission line, and none of the incremental underground costs would be allocated to any other NITS customers.⁴⁰³ Mr. Payne said this disparate treatment "could result in inciting customers with large loads to locate outside the Company's retail service territory."⁴⁰⁴

Mr. Lennhoff presented rebuttal testimony in response to Somerset witness Napoli, FST witness Mayer, and numerous public witnesses who testified that a transmission line would negatively impact the fair market value of their homes and businesses. Mr. Lennhoff has been appraising properties in the County since 1975, including land, shopping centers, houses, apartments and hotels.⁴⁰⁵ His analysis on the financial impacts of transmission lines on homes and businesses was limited to those properties not actually encumbered by transmission line ROW easements.⁴⁰⁶

Mr. Lennhoff testified that there is no consensus in literature that property abutting a transmission line ROW suffers a loss in value.⁴⁰⁷ In support of this claim, he attached a study to his rebuttal testimony (Rebuttal Schedule 1), authored by Jennifer M. Pitts and Thomas O. Jackson, PhD, MAI, entitled "Power Lines and Property Values Revisited."⁴⁰⁸ This study summarizes the research findings from other past studies, many of which indicate that a transmission line has no significant impact on residential property values.⁴⁰⁹ Moreover, when negative impacts were found, the studies indicated an average reduction in home values of between 1% and 10%.⁴¹⁰ The studies further indicated that the impacts diminish as the distance from the transmission line increases and disappear at a distance of approximately 200 feet from the line.⁴¹¹ Further, when the transmission line structures are screened by landscaping or topography, any negative impacts are reduced considerably.⁴¹² Mr. Lennhoff also noted that the value reduction attributable to a transmission line is temporary and decreases over time, disappearing entirely in four to ten years.⁴¹³

⁴⁰¹ *Id.* at 5.

⁴⁰² *Id.*

⁴⁰³ *Id.*

⁴⁰⁴ *Id.* at 6.

⁴⁰⁵ Ex. 44 (Lennhoff Rebuttal) at 3.

⁴⁰⁶ *Id.* at 2.

⁴⁰⁷ *Id.* at 3.

⁴⁰⁸ *Id.* at Rebuttal Schedule 1.

⁴⁰⁹ *Id.* at 3-4; Rebuttal Schedule 1 at 1.

⁴¹⁰ *Id.* at 4; Rebuttal Schedule 1 at 1.

⁴¹¹ *Id.* at 4.

⁴¹² *Id.*

⁴¹³ *Id.*

Mr. Lennhoff next responded to Catherine Calvin's public witness testimony, which referenced a 2008 study that showed a 38% loss in value for homes in the vicinity of transmission lines.⁴¹⁴ Mr. Lennhoff testified that he believed Ms. Calvin was referring to a 2008 report by the "Askon Consulting Group ("Askon")," which he attached to his rebuttal testimony as Rebuttal Schedule 2. Although Mr. Lennhoff claimed the Askon "report does not provide sufficient detail to confirm the reliability of its conclusions,"⁴¹⁵ there is indeed language in the report which states that "[a] study carried out in Britain in 2007 showed the value of detached properties at a distance of less than 100 m[eters] from overhead transmission lines was 38 percent lower than comparable properties."⁴¹⁶ Mr. Lennhoff distinguished the finding in the British study by claiming that the U.S. studies he has reviewed "show little to no significant impact on home values due to" transmission lines.⁴¹⁷

Mr. Lennhoff also responded to Tad Wilson's public witness testimony citing an article from the Appraisal Journal in 2013, which showed that home values near a transmission line could decrease by 12%.⁴¹⁸ Mr. Lennhoff pointed out that the article in the Appraisal Journal also cited many other studies that "concluded there was no observable significant price effect from proximity to, or visibility of, [transmission lines]."⁴¹⁹ He also noted that the authors of the article conducted a study on the impact of transmission lines on properties in Portland, Oregon, and Seattle, Washington, which showed a 2% and 2.4%, respectively, reduction in value.⁴²⁰ However, he noted that the article also found that "all markets do not react in the same way to [transmission line] proximity."⁴²¹

Mr. Lennhoff also took issue with Staff witnesses Joshipura and McCoy regarding the potential negative impact of an overhead transmission line on property values.⁴²² Once again, Mr. Lennhoff emphasized that "there is no empirical research evidence to support such an understanding."⁴²³

Mr. Lennhoff also challenged the statements of some public witnesses who claimed that homes near a transmission line take longer to sell.⁴²⁴ Referencing the article attached to his rebuttal testimony as Rebuttal Schedule 1, Mr. Lennhoff said that interviews were conducted with realtors and appraisers by the authors of the study, and approximately one half of those interviewed had not observed that the presence of power lines negatively impacted the number of days that homes remained on the market.⁴²⁵ He said the remaining realtors and appraisers observed that homes near transmission lines could expect to remain on the market from 0 to 60 additional days.⁴²⁶

⁴¹⁴ *Id.*

⁴¹⁵ *Id.*

⁴¹⁶ *Id.* at Rebuttal Schedule 2 at 5.

⁴¹⁷ *Id.* at 4.

⁴¹⁸ *Id.* at 5.

⁴¹⁹ *Id.*

⁴²⁰ *Id.*

⁴²¹ *Id.*

⁴²² *Id.* at 5-6.

⁴²³ *Id.*

⁴²⁴ *Id.* at 6.

⁴²⁵ *Id.*

⁴²⁶ *Id.*

Mr. Lennhoff also attached a more recent study to his rebuttal testimony as Rebuttal Schedule 3. In this study, Dr. James A. Chalmers and Dr. Frank A Voorvaart reviewed the findings of sixteen studies examining whether a home's proximity to a transmission line affected its value.⁴²⁷ According to Mr. Lennhoff, the studies reviewed by Drs. Chalmers and Voorvaart observed that when transmission lines impact property values, they tend to be small, almost always less than 10%, and usually in the range of 3% to 6%.⁴²⁸ He also said the study found that the impact on a home's value decreases rapidly as distance to the line increases, and usually disappears at 200 to 300 feet.⁴²⁹ He also said the negative impact of a transmission line on a home's value tends to dissipate over time.⁴³⁰

Mr. Lennhoff also responded to FST witness Mayer's testimony that no retail user would be interested in FST's property with overhead transmission lines in place because buildings would be set back over 100 feet from the John Marshall Highway (SR 55) and retail users would be traveling under power lines to enter the businesses.⁴³¹ While Mr. Lennhoff admitted he did not study FST's property, he said his "expectation is that there would be no negative effect on the value of retail property from users traveling under power lines to enter the businesses."⁴³²

Mr. Lennhoff also disagreed with Somerset witness Napoli's claim that Dominion is not competent to determine the effect a transmission line would have on potential economic development or opine as to what could negatively impact economic development.⁴³³ Mr. Lennhoff testified that "[s]tudies are widely available that would enable the Company, as well as anyone else, to understand the likely impact of a transmission line on potential economic development."⁴³⁴

Based on his review of academic literature, Mr. Lennhoff contended that the impact of a transmission line on property values should be minimal.⁴³⁵

Ms. Faison presented rebuttal testimony addressing the DEQ Report and responding to the direct testimony of Somerset witness Napoli, FST witness Mayer, and Staff witness McCoy.

Ms. Faison testified that Dominion "generally agrees with all recommendations included in the Summary of General Recommendations listed in the DEQ Report."⁴³⁶ She further testified the "Company has no issues or objections to the permit requirements described in the DEQ Report, and fully intends to comply with all federal, state and local laws."⁴³⁷ She did, however, comment on two comments in the DEQ Report.⁴³⁸

⁴²⁷ *Id.* at Rebuttal Schedule 3 at 3.

⁴²⁸ *Id.* at 6.

⁴²⁹ *Id.*

⁴³⁰ *Id.*

⁴³¹ *Id.* at 7-8.

⁴³² *Id.*

⁴³³ *Id.* at 8.

⁴³⁴ *Id.*

⁴³⁵ *Id.* at 9.

⁴³⁶ Ex. 45 (Faison Rebuttal) at 2.

⁴³⁷ *Id.*

⁴³⁸ *Id.* at 2-4.

In response to the Virginia Outdoor Foundation's ("VOF") comments expressing concern that the proposed I-66 Overhead Route would be a significant visual intrusion on the Bull Run Mountains Natural Area,⁴³⁹ Ms. Faison testified that during the engineering phase of the Project, Dominion would make an effort to design and place structures to address the VOF's concerns with potential visual impacts of the line.⁴⁴⁰ In this regard, she testified that the Company intends to use galvanized steel structures for the I-66 Overhead Route, which would blend in and minimize visual impacts.⁴⁴¹

Ms. Faison next addressed the coordination between the Company, the County, and VDOT. She testified that Dominion has coordinated closely with VDOT on routing the line along VDOT ROW, and said VDOT has agreed to work with the Company during the placement of utilities within VDOT's limited access ROW for whichever route is approved by the Commission.⁴⁴² She further testified the Company will include the County in future meetings with VDOT after a route is approved by the Commission.⁴⁴³

Ms. Faison further testified that Dominion had reviewed the testimony of the witnesses for Southview, FST, and Somerset regarding the impacts of the proposed I-66 Overhead Route and the other overhead alternative routes.⁴⁴⁴ However, she said the Company continued to support the I-66 Overhead Route for approval by the Commission because it is needed and because it reasonably minimizes adverse impacts.⁴⁴⁵

Ms. Faison also responded to FST witness Mayer's testimony addressing the proposed widening of John Marshall Highway (SR 55).⁴⁴⁶ Mr. Faison testified that Dominion learned of the proposed widening of the highway late in the routing process and acknowledged that the proposed I-66 Overhead Route would place utility structures within the expanded ROW necessary for the widening project.⁴⁴⁷ She testified, however, that the proposed Walmart Variation would move the line away from any additional ROW necessary for the expansion of John Marshall Highway (SR 55), would minimize tree clearing along the highway, and would increase the transmission line's distance from future development located along the highway.⁴⁴⁸

Ms. Faison next responded to Somerset witness Napoli's testimony addressing the proximity of the proposed I-66 Overhead Route to a helipad located at the Novant Health Haymarket Medical Center ("Novant Health").⁴⁴⁹ Ms. Faison testified that the Company met with representatives of Novant Health to discuss the proposed line and its potential impact on helipad operations.⁴⁵⁰ She testified that the representatives of Novant Health did not foresee any problems with the Company's

⁴³⁹ Ex. 27 at 22-23.

⁴⁴⁰ Ex. 45 (Faison Rebuttal) at 3.

⁴⁴¹ *Id.*

⁴⁴² *Id.* at 3-4.

⁴⁴³ *Id.* at 4.

⁴⁴⁴ *Id.*

⁴⁴⁵ *Id.*

⁴⁴⁶ *Id.* at 5.

⁴⁴⁷ *Id.*

⁴⁴⁸ *Id.*

⁴⁴⁹ *Id.* at 6.

⁴⁵⁰ *Id.*

preliminary project designs, but they did suggest adding markers or lights to improve the visibility of an overhead transmission line.⁴⁵¹

Ms. Faison also responded to Mr. Napoli's testimony about an open space easement Somerset granted to the County that impacts the viability of the Railroad Alternative Route.⁴⁵² Ms. Faison agreed that the Railroad Alternative Route is no longer a viable alternative because the County has indicated that it does not intend to give Dominion permission to build the transmission line along the Railroad Alternative Route.⁴⁵³

Ms. Faison further testified that if the Commission approves the proposed I-66 Overhead Route, the Company would request an overhead easement in the vicinity of Jordan Lane from the County and/or Town in order to run the transmission line over Jordan Lane.⁴⁵⁴ However, if the Company is unable to obtain an overhead easement from the localities after a reasonable amount of time, she asked the Commission to approve the Jordan Lane Variation, which would route the line around any property owned by the County or Town.⁴⁵⁵

Jon Berkin was the Company's final rebuttal witness. He presented rebuttal testimony addressing (i) the June 2, 2016 letter from the DEQ's OWSP, which recalculated the wetland impacts of the routes and recommended that the I-66 Hybrid Alternative Route be approved by the Commission; (ii) the adverse impacts of the proposed and alternative overhead routes identified by witnesses for Southview, FST, and Somerset; and (iii) the testimony and reports of the Commission Staff.

Mr. Berkin testified that the Company disagrees with the OWSP's revised wetland impacts consultation, and believes the I-66 Hybrid Alternative Route would have greater, not less, wetland impacts than the proposed I-66 Overhead Route.⁴⁵⁶ According to Mr. Berkin, the wetland impacts associated with the proposed transition station for the I-66 Hybrid Alternative Route was not considered when NRG examined the route's impact on wetlands.⁴⁵⁷ Interestingly enough, when the wetlands impacted by the transition station are included, both the proposed I-66 Overhead Route and the I-66 Hybrid Alternative Route impact the exact same amount of wetlands - 5.9 acres.⁴⁵⁸ Mr. Berkin further testified that the construction of underground transmission lines have greater wetland impacts than overhead routes because of the trenching required to install transmission lines underground.⁴⁵⁹ Overhead transmission lines, in contrast, use a small footprint for supporting structures and can span wetland areas, thereby reducing the impacts on wetland resources.⁴⁶⁰

⁴⁵¹ *Id.* at 6-7.

⁴⁵² *Id.* at 7-9.

⁴⁵³ *Id.* at 8-9.

⁴⁵⁴ *Id.* at 9-10.

⁴⁵⁵ *Id.*

⁴⁵⁶ Ex. 48 (Berkin Rebuttal) at 3-5.

⁴⁵⁷ *Id.* at 5.

⁴⁵⁸ *Id.*

⁴⁵⁹ *Id.* at 4.

⁴⁶⁰ *Id.*

Mr. Berkin also addressed the impact of the transmission line on the future development on two parcels of property owned by Southview.⁴⁶¹ Mr. Berkin agreed with Southview witness Fuccillo's testimony that the transition station for the I-66 Hybrid Alternative Route would almost totally consume Parcel Two of FST's property and would preclude future development on the parcel.⁴⁶² He testified, however, that "there is not another open parcel with sufficient space for the siting of a transition station in the surrounding area."⁴⁶³

Mr. Berkin also agreed with FST witness Antelo's direct testimony that the proposed I-66 Overhead Route "would significantly reduce the developable area of the FST property."⁴⁶⁴ He pointed out, however, that the FST Route Variation, Dominion's FST Optimization Route, and the Walmart Variation would all locate the line off of FST's property and not impact the future development of FST's property.⁴⁶⁵ He further testified that after further consideration of the Project, Dominion now supports the incorporation of the Walmart Variation into both the proposed I-66 Overhead Route and I-66 Hybrid Alternative Route.⁴⁶⁶

Mr. Berkin then responded to Somerset Napoli's testimony that the Railroad Alternative Route would cause downstream damage to the environment and the Potomac watershed.⁴⁶⁷ Mr. Berkin pointed out that the area between Somerset and the Norfolk Southern railroad tracks is designated as a Resource Protection Area ("RPA") under the Chesapeake Bay Preservation Act (the "Act").⁴⁶⁸ In addition, he further noted that under the Act public utility facilities, such as transmission lines, can be located within RPAs provided certain criteria are met.⁴⁶⁹ Mr. Berkin further testified that Dominion "will construct the Project in accordance with required regulations that constitute effective best management practices to avoid erosion and sediment deposit in waterbodies."⁴⁷⁰ However, any impact of the Railroad Alternative Route on the Potomac watershed now appears to be moot. As Mr. Berkin testified, the construction of a transmission line along the Railroad Alternative Route is no longer viable because the County has expressly rejected granting an overhead easement for the route.⁴⁷¹

Mr. Berkin also responded to Mr. Napoli's assertion that the DHR recommends the I-66 Hybrid Alternative Route because it is the only alternative that substantially mitigates the adverse and unalterable impacts that the Project will have on the historic assets of the region.⁴⁷² While Mr. Berkin acknowledged that the DHR supports undergrounding the transmission line, he claimed that Mr. Napoli exaggerated the impacts of the I-66 Overhead Route on historic resources in the area.⁴⁷³ In support of this claim, Mr. Berkin testified that the impacts of the I-66 Overhead Route "does not

⁴⁶¹ *Id.* at 5-6.

⁴⁶² *Id.* at 5.

⁴⁶³ *Id.*

⁴⁶⁴ *Id.* at 6.

⁴⁶⁵ *Id.* at 6-7.

⁴⁶⁶ *Id.* at 7.

⁴⁶⁷ *Id.* at 7-8.

⁴⁶⁸ *Id.* at 7.

⁴⁶⁹ *Id.*

⁴⁷⁰ *Id.* at 8.

⁴⁷¹ *Id.* at 9.

⁴⁷² *Id.* at 9-14.

⁴⁷³ *Id.* at 14.

have a noteworthy variance from the I-66 Hybrid Alternative [Route] recommended by the DHR.”⁴⁷⁴ His rebuttal testimony includes a table that compares the impacts of both routes on historical resources in the area.⁴⁷⁵ When the I-66 Hybrid Alternative Route is compared with the proposed I-66 Overhead Route, Mr. Berkin noted that the only difference is the I-66 Hybrid Alternative Route would have “moderate” impacts on only one historic resource (the Second Battle of Manassas Battlefield) while the proposed I-66 Overhead Route would have a moderate impact on two historic resources (the Second Battle of Manassas Battlefield and the Buckland Mills Battlefield).⁴⁷⁶ He further asserted that while the proposed I-66 Overhead Route would impact two battlefields, the visual impacts of the route are moderated by the significant development along the I-66 corridor.⁴⁷⁷

Mr. Berkin also responded to Mr. Napoli’s testimony criticizing all of the overhead routes presented by the Company because they are inconsistent with the County’s Comprehensive Plan.⁴⁷⁸ Mr. Berkin testified that Dominion considered the Comprehensive Plan during the routing process, as well as a myriad of other environmental and electrical considerations.⁴⁷⁹ He pointed out, however, that “the comprehensive plan is neither binding nor is it inclusive of every potential land use that may be considered during the life of the document.”⁴⁸⁰ Mr. Berkin noted that the Comprehensive Plan itself states “a comprehensive plan is a general guide to the location, character, and extent of proposed or anticipated land use, including public facilities.”⁴⁸¹

With respect to the Comprehensive Plan’s designated corridors for transmission lines, Mr. Berkin said “the areas designated for transmission lines appear simply to represent locations that already contain existing 115 kV or higher voltage transmission lines when the Plan was published rather than considering or planning for future load needs.”⁴⁸² He further testified that during the planning process for transmission lines, the Company makes a concerted effort to use existing transmission line corridors and collate lines within or adjacent to existing infrastructure, such as highways, when siting transmission lines.⁴⁸³ He noted, however, the Comprehensive Plan does not contain any designated transmission line corridors that can be used to serve the load in the Haymarket load area.⁴⁸⁴ Mr. Berkin further testified that the area where the proposed I-66 Overhead Route will be constructed, if approved by the Commission, “is not visually pristine, and a transmission line would certainly be compatible with the existing uses or future development along [I-66] . . .”⁴⁸⁵

Mr. Berkin also responded to Somerset witness Napoli’s concern that the I-66 Overhead Route would have serious and irrevocable impacts on environmental, scenic, and historic

⁴⁷⁴ *Id.* at 10.

⁴⁷⁵ *Id.* at 11.

⁴⁷⁶ *Id.*

⁴⁷⁷ *Id.* at 11-14.

⁴⁷⁸ *Id.* at 14-16.

⁴⁷⁹ *Id.* at 14-15.

⁴⁸⁰ *Id.* at 15.

⁴⁸¹ *Id.* at 15; Rebuttal Schedule 2 at 2.

⁴⁸² *Id.* at 15.

⁴⁸³ *Id.* at 15-16.

⁴⁸⁴ *Id.* at 16.

⁴⁸⁵ *Id.*

resources.⁴⁸⁶ According to Mr. Berkin, many people have the misconception that there are no adverse impacts with an underground line, which is simply not the case.⁴⁸⁷ He testified the I-66 Hybrid Alternative Route would have significant impacts as well, including the clearing and maintenance of vegetation in the transmission line's ROW, the installation of manholes, as well as negative impacts on future development.⁴⁸⁸

Mr. Berkin finally responded to Staff witness McCoy's testimony that claimed NRG's Environmental Routing Study gives a "false impression," "does not give a clear picture," and is "misleading" with respect to the impacts of the I-66 Hybrid Alternative Route.⁴⁸⁹ Mr. Berkin testified that he believes Staff witness McCoy's statements appear to "be based largely, or even solely, on the criteria of visual impacts."⁴⁹⁰ Referring to Table 4-1 in NRG's Environmental Routing Study, Mr. Berkin testified that all the routes, including the I-66 Hybrid Alternative Route, have varying degrees of permanent impacts.⁴⁹¹ He further testified the potential impacts of the I-66 Hybrid Alternative Route are underestimated in Table 4-1 because the table does not include the impacts associated with the transition station for the I-66 Hybrid Alternative Route.⁴⁹²

Mr. Berkin also disagreed with Staff witness McCoy's statement that the visual impacts of the I-66 Hybrid Alternative Route would be reduced to zero within the most populated areas of the route.⁴⁹³ According to Mr. Berkin, the I-66 Hybrid Alternative Route would require permanent clearing of shrub and forestlands, the placement of manholes every 2,000 feet, the development of permanent access roads to access the manholes, and the construction of a transition station that would encompass 5-7 acres – all of which would visually impact those residences and businesses in the vicinity of the underground portion of the line.⁴⁹⁴

Mr. Berkin testified that it must be remembered that § 56-46.1 B of the Code provides that a transmission line should reasonably minimize, not eliminate, adverse impact on the scenic assets, historic districts and environment of the area.⁴⁹⁵ He further testified that he believes the proposed I-66 Overhead Route meets the requirements of the statute.⁴⁹⁶

III. DISCUSSION OF THE ISSUES

The statutory scheme governing Dominion's Application is found in several chapters of Title 56 of the Code.

Section 56-265.2 of the Code provides that "it shall be unlawful for any public utility to construct . . . facilities for use in public utility service . . . without first having obtained a certificate

⁴⁸⁶ *Id.* at 17-18.

⁴⁸⁷ *Id.* at 17.

⁴⁸⁸ *Id.* at 17-18.

⁴⁸⁹ *Id.* at 18-20.

⁴⁹⁰ *Id.* at 19.

⁴⁹¹ Ex. 10 (Environmental Routing Study) at 60-65, Table 4-1.

⁴⁹² Ex. 48 (Berkin Rebuttal) at 18.

⁴⁹³ *Id.* at 19.

⁴⁹⁴ *Id.*

⁴⁹⁵ *Id.* at 20.

⁴⁹⁶ *Id.*

from the Commission that the public convenience and necessity require the exercise of such right or privilege.” Section 56-46.1 of the Code further directs the Commission to consider several factors when reviewing the Company’s Application. Subsection A of the statute provides, in part, that:

Whenever the Commission is required to approve the construction of any electrical utility facility, it shall give consideration to the effect of that facility on the environment and establish such conditions as may be desirable or necessary to minimize adverse environmental impact. . . . In every proceeding under this subsection, the Commission shall receive and give consideration to all reports that relate to the proposed facility by state agencies concerned with environmental protection; and if requested by any county or municipality in which the facility is proposed to be built, to local comprehensive plans that have been adopted . . .

Additionally, the Commission (a) shall consider the effect of the proposed facility on economic development within the Commonwealth . . . and (b) shall consider any improvements in service reliability that may result from the construction of such facility.

Subsection B of the statute further provides, in part, that:

As a condition to approval the Commission shall determine that the line is needed and that the corridor or route the line is to follow will reasonably minimize adverse impact on the scenic assets, historic districts and environment of the area concerned. . . . In making the determinations about need, corridor or route, and method of installation, the Commission shall verify the applicant’s load flow modeling, contingency analyses, and reliability needs presented to justify the new line and its proposed method of installation. . . . Additionally, the Commission shall consider, upon the request of the governing body of any county or municipality in which the line is proposed to be constructed, (a) the costs and economic benefits likely to result from requiring the underground placement of the line and (b) any potential impediments to timely construction of the line.

The Code further requires that the Commission consider existing ROW easements when siting transmission lines. Section 56-46.1 C of the Code provides that “[i]n any hearing the public service company shall provide adequate evidence that existing rights-of-way cannot adequately serve the needs of the company.” In addition, § 56-259 C of the Code provides that “[p]rior to acquiring any easement of right-of-way, public service corporations will consider the feasibility of locating such facilities on, over, or under existing easements of rights-of-way.”

1. Need

The threshold issue in every transmission line case seeking a CPCN is whether the line is “needed.” If the Commission finds the transmission line is needed, it then becomes necessary to

consider and address numerous additional issues, including, among other things, the transmission line's impact on the environment, scenic assets, historic districts, the health and safety of persons in the area, system reliability, and economic development. If, however, the Commission finds the line is not needed, the Commission's inquiry is over and the application must be denied.

Several novel arguments were raised contesting the need for a new transmission line to serve the Haymarket load area. Many public witnesses maintained that a new transmission line is not needed because the Customer could relocate its data center to Innovation Park, where they claimed sufficient electric infrastructure is already in place to serve the Customer's new data center. Other public witnesses requested the Commission to invoke its power and require the Customer to relocate its data center to Innovation Park.

Several parties and public witnesses also contested the need for a new transmission line, but for a different reason. They contended the line is being proposed to serve only one customer, the developer of the new data center, and that need cannot be established based on the needs of one customer alone. FST's Post-Hearing Brief also questioned the need for a new transmission line, asserting that the need for a new transmission line "is not readily apparent from the record in this matter"⁴⁹⁷ FST further asserted that the Commission "should not take possible future users into consideration" when determining whether the line is needed.⁴⁹⁸ In addition, several locally elected officials claimed the transmission line would not be needed but for the large block load of the Customer's new data center. Accordingly, they requested that the Commission hire an independent consultant to determine whether there is a need for the transmission line prior to ruling on Dominion's Application.

When determining whether the transmission line is needed, it is quite obvious that the Commission cannot deny the Application simply because there may be sufficient infrastructure located elsewhere to serve the Customer's new data center. Nor can the Commission invoke its authority and require the Customer to relocate its data center to Innovation Park because no such authority exists. The County, not the Commission, determines when and where residential, commercial, and industrial development takes place in the County through its zoning ordinances. In this case, the Customer is developing its data center "by right," which allowed the Customer to begin construction of its data center without first obtaining a special use permit from the County.⁴⁹⁹ The Commission has no authority to interfere in this process, and any attempt to do so indirectly, by finding a transmission line is not needed because sufficient infrastructure is available elsewhere, would be improper and beyond the jurisdiction of the Commission.

I further find that it would be improper to ignore the load of the Customer's new data center, as some parties and public witnesses suggest, when determining whether the proposed transmission line is "needed" under § 56-46.1 B of the Code. The plain language of the statute does not draw a

⁴⁹⁷ FST Post-Hearing Brief at 3.

⁴⁹⁸ *Id.*

⁴⁹⁹ On May 17, 2016, the County amended its zoning ordinances to eliminate data centers as a "by right" use in all commercial districts located outside a defined Data Center Opportunity Zone Overlay District. Accordingly, new data centers located outside the County's new Data Center Opportunity Zone Overlay District would need to obtain a special use permit from the County before constructing a new data center. However, this amendment to the County's zoning ordinances does not affect the Customer's new data center in this case.

distinction between new large block load customers, such as the Customer's new data center in this case, and a public utility's other smaller load customers when determining whether a new transmission line is needed. Accordingly, the need for a new transmission line must be determined based on the aggregate load of all customers in the load area, including large block load customers, smaller load customers, as well as future projected load growth. Any attempt to determine need by "cherry picking" which customer loads or customer classes should be included in a needs analysis has no support in the plain language of the statute, or in past Commission precedent. Additionally, such a selective and segmented approach for determining need would have absolutely no bearing on when and where new transmission infrastructure is needed. When determining whether a transmission line is needed under § 56-46.1 B of the Code, all existing loads and future projected loads, regardless of size, must be considered.

Moreover, interpreting need in the manner suggested by some of the parties and public witnesses in this case would prevent Dominion from performing its statutory duties as defined by the General Assembly. Section 56-234 of the Code requires Dominion "to furnish reasonably adequate service at reasonable and just rates to any person, firm or corporation along its lines desiring same." Excluding large block load customers, such as the Customer's new data center load when conducting a needs analysis, would put Dominion and the Customer in a "Catch 22" regulatory situation. In other words, the Customer needs additional power for its new data center operations, Dominion has a statutory obligation to provide such power, but Dominion would be prevented from doing so because the line is not needed to serve Dominion's other customers. Such an interpretation of § 56-46.1 B of the Code not only defies logic, it also would create a statutory conflict between §§ 56-46.1 B and 56-234 of the Code.

After reviewing the record in this case, I find that a new transmission line is needed for Dominion to meet its statutory duty to provide reasonably adequate service at reasonable and just rates to all of its customers in the Haymarket load area, including the Customer's new data center. The evidence introduced in this case reveals that there are three distribution circuits currently serving the area; namely, distribution circuits #378, #379, and #695. Further, Dominion's existing distribution circuits do not have sufficient capacity to serve the aggregate load of the Customer's new data center, existing customers, and future projected load growth.

Attachment I.B. 2 of the Appendix shows the actual and projected loads on the three distribution circuits between 2010 and 2024, including the anticipated load from the Customer's new data center. Based on a very conservative annual load growth rate of 1.0%, the available capacity of Dominion's three distribution circuits serving the Haymarket load area is projected to be 47.8 MVA during the summer of 2018 when the new data center becomes fully operational. The Customer's total load in the summer of 2018 is projected to be 120 MVA – far above the 47.8 MVA of projected capacity available on Dominion's three distribution circuits. Accordingly, Dominion's existing distribution facilities are not sufficient to serve the projected load in the Haymarket load area and a new transmission line is needed to continue providing service to all of Dominion's customers in the Haymarket load area, including the Customer's new data center.

Three additional issues that merit a brief discussion include (i) the challenges to Dominion witness Gill's Rebuttal Schedule 2, which showed future anticipated development in the area;

(ii) Somerset witness Napoli's claim that Dominion's system was not "stress-evaluated" to determine whether the proposed transmission line is needed; and (iii) the requests by current and former Town officials that the Commission hire an independent consultant to determine whether a new transmission line is needed.

With respect to Dominion witness Gill's Rebuttal Schedule 2, Chris Price, the County's Planning Director, and Robert Weir, a former member of the Town Council and former member and chairman of the Town's Planning Commission, filed written comments on June 17, 2016, criticizing Mr. Gill's Rebuttal Schedule 2, which showed future development planned in the area.⁵⁰⁰ Rebuttal Schedule 2, which was developed based on information contained in the County's December 31, 2014 Build-Out Analysis,⁵⁰¹ showed approximately 8.5 million square feet of non-residential development and 889 additional residential units scheduled for future development. Messrs. Price's and Weir's written comments claimed that Mr. Gill's Rebuttal Schedule 2 is inaccurate and overstates future development because, among other things, Mr. Gill relied on stale zoning data, double counted some of the future development in his analysis, and inflated the number of residential units to be developed because many of the residential units have already been built. However, these written comments criticizing Mr. Gill's Rebuttal Schedule 2 should be given little, if any, weight in this proceeding for several reasons.

First, even if one totally ignores all future growth in the area, a new transmission line is still needed to serve the load of the Customer's new data center and Dominion's existing customers. In the summer of 2018, for example, the total projected capacity available on Dominion's three distributions circuits serving the area will be 47.8 MVA. Accordingly, even if one assumes there will be no future development whatsoever in the area, the transmission line is still needed so Dominion can perform its statutory duty and serve the Customer's request for 120 MVA of power in 2018, as well as the Company's existing customers. Simply put, the information contained in Mr. Gill's Rebuttal Schedule 2 relating to future growth is not needed to rule on Dominion's Application. The Company has demonstrated a need for the Haymarket transmission line regardless of any additional future development in the area.

Second, while Dominion, the County, and Mr. Weir can quibble about when and how fast future development will occur, I am not convinced that the criticisms of Mr. Gill's Rebuttal Schedule 2 are entirely valid. To give an example, much was made over the fact that Mr. Gill used stale zoning data and double counted proposed future developments in his analysis. However, as Mr. Gill pointed out during his rebuttal testimony, the County's Build-Out Analysis states that stale zoning applications are assumed to be developed at a higher intensity use.⁵⁰² This assumption in the Build-Out Analysis would tend to indicate that future development in the County may be greater than estimated by Mr. Gill's Rebuttal Schedule 2.

I have also reviewed Mr. Gill's Rebuttal Schedule 2 and find no evidence of double counting. While Mr. Gill included the Customer's new data center in his analysis of future development, which is already under construction, there is no evidence of any double counting. Additionally, while Mr. Gill's Rebuttal Schedule 2 may include some residential units that have

⁵⁰⁰ Ex. Nos. 37, 38.

⁵⁰¹ Ex. 30.

⁵⁰² June 22 Tr. at 344-345; Ex. 30 at 3.

already been built, it cannot be seriously debated that development is not occurring in western Prince William County.⁵⁰³ Western Prince William County is a highly desirable area, as many public witnesses testified during the local hearings, because of its rural nature and proximity to Washington, D.C.⁵⁰⁴

Finally, if Messrs. Price and Weir wanted to demonstrate that future development in the area is significantly lower than shown in Mr. Gill's Rebuttal Schedule 2, they could have provided the County's most recent Build-Out Analysis.⁵⁰⁵ As stated in the County's December 31, 2014 Build-Out Analysis, the analysis *is prepared annually* by the County's Planning Office (emphasis added).⁵⁰⁶ By failing to provide an accurate, up-to-date copy of the County's most recent Build-Out Analysis, which Mr. Price could have easily provided as the Director of the County's Planning Office, I seriously question whether the future development in the area is as low as Messrs. Price and Weir attempt to portray in their written comments criticizing Mr. Gill's Rebuttal Schedule 2.

Turning now to Somerset witness Napoli's testimony claiming that Dominion did not "stress test" its system, and the requests by Town officials that an independent third-party consultant be hired to determine the need for the Project, I find that neither of these issues should cause the proposed transmission line to be rejected or delayed.

This is a very simple case as far as the issue of need is concerned. By stress tests, I am assuming that Mr. Napoli is requesting that a series of complicated load flow studies, contingency analyses and modeling be performed to determine if the Haymarket transmission line is needed. However, such complicated studies and analyses are not necessary in this case. Load flow studies, contingency analyses and modeling are typically used to determine whether electric infrastructure is needed to prevent potential NERC reliability violations in large regional areas and to determine when and where new infrastructure should be built to address overloading and reliability concerns. In this case, complicated load flow studies, contingency analyses and modeling, or so-called 'stress testing' in Mr. Napoli's words, are not necessary. The only load flow information needed to decide this case is the projected available capacity on Dominion's three distribution circuits serving the Haymarket load area and the annual projected loads of the Customer's new data center. This data clearly shows that overloading will occur on Dominion's system if a new transmission line is not built.

Similarly, there is no need to hire an independent consultant to determine whether the proposed transmission line is needed. Such a study would be a waste of valuable Commission resources and would only delay the approval of the Haymarket transmission line. The need in this case can be demonstrated quite easily by comparing the projected available capacity on Dominion's three distribution circuits (47.8 MVA) with the Customer's projected load (120 MVA) in 2018.

⁵⁰³ See e.g., March 14 Tr. at 260; see also letter from Brendon Shaw, Director of Government Relations, Prince William Chamber of Commerce, to Joel Peck, Clerk of the Commission, dated June 17, 2016, passed to the file during the June 21 hearing (describing the significant growth taking place in Prince William County).

⁵⁰⁴ See e.g., February 24 Tr. at 40, 139, 160.

⁵⁰⁵ Mr. Gill's Rebuttal Schedule 2 was based on the County's December 31, 2014 Build-Out Analysis, which is latest version currently displayed on the County's website.

⁵⁰⁶ Ex. 30 at 2.

For all of the above reasons, I find that a new transmission line is needed so Dominion can meet its statutory duty “. . . to furnish reasonably adequate service and facilities at reasonable and just rates to any person, firm or corporation along its lines”⁵⁰⁷

2. Routing

(a) Overhead versus Underground Construction

The major routing issue presented in this case is whether the transmission line should be constructed overhead or underground. When resolving this issue, it is helpful to review past Commission precedent where underground transmission lines have been approved and under what circumstances the Commission has found underground construction is appropriate. It must be recognized, however, that the vast majority of past Commission transmission line cases have found that transmission lines should be constructed overhead because of the significantly greater costs of underground construction and the Commission’s belief that Dominion’s general body of ratepayers should not be required to subsidize underground construction to mitigate local impacts and concerns. As recognized by the Commission in Case No. PUE-2002-00702, “the Commission has approved underground construction in limited circumstances and that underground construction has been the ‘exception’ on [Dominion’s] system.”⁵⁰⁸

A review of past Commission decisions indicates that underground transmission lines have only been approved in exceptional and limited circumstances, including when:

- (1) No overhead ROW is available and an overhead transmission line is not feasible;⁵⁰⁹

⁵⁰⁷ Section 56-234 of the Code.

⁵⁰⁸ *Application of Virginia Electric and Power Company D/B/A Dominion Virginia Power, For a certificate of public convenience and necessity for facilities in Loudoun County: Brambleton-Greenway 230 kV Transmission Line*, Case No. PUE-2002-00702, 2004 S.C.C. Ann. Rept. 347, 350, Final Order (Oct. 8, 2004), *aff’d* *Dulles Gateway Associates, LLC, et al., v State Corp. Comm’n.*, Record No. 050273, slip op. (Va. Sup. Ct. Nov. 4, 2005).

⁵⁰⁹ *Application of Virginia Electric and Power Company D/B/A Dominion Virginia Power, For a certificate of public convenience and necessity for facilities in the Cities of Portsmouth and Norfolk: Churchland-Sewells Point 230 kV Transmission Line*, Case No. PUE-2004-00139, 2005 S.C.C. Ann. Rept. 383, Final Order (Aug. 29, 2005) (finding that a portion of a transmission line should be undergrounded because there was no ROW available for overhead construction); *Application of Virginia Electric and Power Company, For a certificate of public convenience and necessity authorizing construction and operation of transmission lines and facilities in the City of Alexandria: Jefferson Street-Glebe and Ox-Glebe 230 kV Transmission Lines, Phase 2-Potomac Yards Circuit Transmission Line Underground Installation*, Case No. PUE-1996-00071, 1996 S.C.C. Ann. Rept. 311, Final Order (Aug. 9, 1996) (authorizing a transmission line to be relocated underground because there were no feasible overhead routes available); *Application of Virginia Electric and Power Company, To amend its certificate of public convenience and necessity No. ET-63g authorizing operation of transmission lines and facilities in Arlington County: Glebe Substation – Pentagon Substation 230 kV Underground Transmission Line*, Case No. PUE-1988-00063, 1989 S.C.C. Ann. Rept. 260, Final Order (Apr. 3, 1989) (finding there were no viable overhead transmission line routes available when approving the underground construction for a transmission line).

(2) The cost of undergrounding a transmission line is comparable to or less than the cost of overhead construction;⁵¹⁰

(3) An underground transmission line is approved as a pilot project under House Bill 1319, as amended and reenacted;⁵¹¹

(4) An underground transmission line is approved on an experimental basis to allow experience to be gained with extruded dielectric cross-linked polyethylene (“XLPE”) cable.⁵¹²

(5) Where a third party agrees to pay for the costs of underground construction;⁵¹³ and

(6) Where a special tax district is created under § 15.2-2404 F of the Code to impose a tax or assessment on electric utility customers to pay the additional incremental costs to underground a transmission line.

A review of the evidence presented in this case demonstrates that the proposed Haymarket transmission line does not meet any of the criteria previously established by the Commission or the General Assembly for undergrounding a transmission line.

⁵¹⁰ *Application of Virginia Electric and Power Company, To amend its certificate of public convenience and necessity No. ET-79bb authorizing operation of transmission lines and facilities in Fairfax County: Pender Substation – Oakton Substation 230 kV Underground Transmission Line*, Case No. PUE-1988-00079, 1989 S.C.C. Ann. Rept. 267, Final Order (Apr. 3, 1989) (approving an underground transmission line because it cost less than an overhead line).

⁵¹¹ See House Bill 1319, 2008 Va. Acts ch. 799, as amended and reenacted by House Bill 2027, 2011 Va. Acts ch. 244. The Commission approved three underground transmission line pilot projects under this enabling legislation, including: *Modified Request of Virginia Electric and Power Company, To participate in pilot project, and for approval of underground transmission line construction, under §2.A of HB 1319*, Case No. PUE-2008-00042, 2008 S.C.C. Ann. Rept. 537, Order Approving Modified Request (May 28, 2008); *Application of Virginia Electric and Power Company, For approval and certification of Beaumeade-NIVO 230 kV Underground Transmission line and 230-34.5 kV NIVO Substation under Va. Code § 56-46.1 and the Utility Facilities Act, Va. Code § 56-265.1 et seq., and as a pilot project pursuant to HB 1319*, Case No. PUE-2008-00063, 2009 S.C.C. Ann. Rept. 319, Final Order (May 29, 2009); *Application of Virginia Electric and Power Company, For approval and certificates of public convenience and necessity for facilities in Arlington County: Glebe-Radnor Heights 230 kV Transmission Line; Davis-Radnor Heights 230 kV Transmission Line; Ballston-Radnor Heights 230 kV Transmission Line; and Radnor Heights Substation*, Case No. PUE-2010-00004, 2010 S.C.C. Ann. Rept. 443, Final Order (July 21, 2010).

⁵¹² *Application of Virginia Electric and Power Company D/B/A Dominion Virginia Power, For a certificate of public convenience and necessity for facilities in Arlington County: Clarendon-Ballston 230 kV Transmission Line*, Case No. PUE-2006-00082, 2007 S.C.C. Ann. Rept. 349, Final Order (May 25, 2007); *Application of Virginia Electric and Power Company D/B/A Dominion Virginia Power, For a certificate of public convenience and necessity for facilities in Stafford County: Garrisonville 230 kV Transmission Line and 230 kV-34.5 kV Garrisonville Switching Substation*, Case No. PUE-2006-00091, 2008 S.C.C. Ann. Rept. 343, Final Order (Apr. 8, 2008).

⁵¹³ *Petition of Virginia Electric and Power Company, For a Declaratory Judgment and, in the Alternative, Application for Authority to Construct and Operate Transmission Facilities Pursuant to the Utility Facilities Act*, Case No. PUE-2002-00180, 2002 S.C.C. Ann. Rept. 531, Final Order (July 16, 2002) (authorizing underground construction of a transmission line when the U.S. Navy agreed to pay for the project); *Application of Virginia Electric and Power Company, For a certificate of public convenience and necessity authorizing operation of transmission lines and facilities in the City of Alexandria: Jefferson Street-Glebe/Ox-Glebe 230 kV double circuit transmission line underground installation*, Case No. PUE-1995-00134, 1996 S.C.C. Ann. Rept. 295, Final Order (Apr. 1, 1996) (authorizing a portion of a proposed transmission line to be constructed underground when the City of Alexandria agreed to reimburse Dominion for the costs of undergrounding the line).

First, no one has suggested that there is inadequate ROW available for the construction of an overhead transmission line. Indeed, the record in this case indicates that sufficient ROW is available to construct the proposed I-66 Overhead Route and three additional alternative overhead routes presented in Dominion's Application.

Second, the cost of undergrounding the Haymarket transmission line is significantly more expensive than the proposed I-66 Overhead Route, or any of the alternative overhead routes presented in Dominion's Application. The cost of an overhead transmission line ranges between \$51 to \$67.8 million, depending on the overhead route selected, compared to the \$166.7 million estimated cost of the I-66 Hybrid Alternative. Clearly, the cost of undergrounding the line is significantly more expensive than the costs of the proposed and alternative overhead routes presented in Dominion's Application.

Moreover, it is highly likely that the cost of the I-66 Hybrid Alternative is significantly understated. As Dominion witness Koonce testified during the Company's rebuttal case, the Company's original estimate for underground construction did not include a sufficient number of road borings, nor did the estimate anticipate the additional costs that would be incurred to excavate the significant amount of rock exposed during the construction of sound walls along I-66. These additional costs for undergrounding the line will only further increase the difference in costs between overhead and underground construction of the Haymarket transmission line.

Third, the Haymarket transmission line cannot qualify as a pilot project. The enabling legislation, as amended and reenacted, only applied to transmission line applications filed between April 2, 2008, and July 1, 2014.

Fourth, no one has suggested that the Haymarket transmission line should be approved on an experimental basis to allow Dominion to gather additional information on the use of XLPE cable. The Commission has already approved two underground transmission lines to allow Dominion to gather information on XLPE cable. Another experiment is not necessary because it would only needlessly duplicate the two experimental underground transmission lines previously approved by the Commission, and further increase costs to Dominion's general body of ratepayers.

Finally, no one has stepped forward and agreed to pay for undergrounding the Haymarket transmission line, neither the Customer building the new data center nor residents in the area through the creation of a special tax district under § 15.2-2404 F of the Code.

Accordingly, there was no evidence presented in this case that would support a recommendation to approve the I-66 Hybrid Alternative Route based on any of the factors previously identified by the Commission. Indeed, any recommendation to underground the Haymarket transmission line would be contrary to an extensive body of past Commission precedent holding that a public utility's general body of ratepayers should not be required to subsidize underground construction to mitigate local impacts and concerns.

(b) Section XXII Underground Line Extensions

There was a proposal raised in this case that would insulate Dominion's general body of ratepayers from the costs of undergrounding the proposed Haymarket transmission line, thereby removing the primary reason why the Commission has favored overhead construction of transmission lines in past cases, and possibly creating an additional exception to the Commission's general rule favoring overhead construction. Under this proposal, the Haymarket transmission line would be deemed a line extension under Section XXII of Dominion's Terms and Conditions, and the Customer would be required to pay a \$115.7 million "transitional cost" to underground the Haymarket transmission line.⁵¹⁴ In a manner similar to the U.S. Navy's agreement to pay for undergrounding a transmission line in Case No. PUE-2002-00180, this proposal would insulate Dominion's general body of ratepayers from paying the costs to underground the Haymarket transmission line. However, unlike the U.S. Navy's "voluntary agreement" to pay for undergrounding a transmission line, the Customer building the new data center in this case would be "required" to pay such costs under Section XXII.

The theory supporting this new approach was explained by Staff witness Joshipura. He testified the Staff does not believe the transmission line would be needed without the Customer's request for electric service to its new data center. Accordingly, he suggested the transmission line could be viewed as a line extension under Section XXII of Dominion's Terms and Conditions. In support of this approach, he testified there is "nothing in the actual Commission-approved language of Section XXII, or any part therein, [that] explicitly states that these terms and conditions apply to distribution facilities only."⁵¹⁵ He also noted that Dominion itself had stated in response to a Staff interrogatory in the Poland Road case that Section XXII would apply to the transmission line proposed in that case before correcting its response several months later. Finally, the Staff pointed out that the Haymarket, Poland Road and Yardley Ridge transmission lines were all characterized as "line extensions" in Dominion's 2016 IRP filing.

The Staff's Post-Hearing Brief urged the Commission to consider whether Dominion's line extension policy should apply as a means to mitigate the costs of the I-66 Underground Hybrid Route on Dominion's ratepayers.⁵¹⁶ The Staff further suggested that application of Dominion's line extension policy may be appropriate since "the need for the Project is entirely due to the request for additional service by a single customer," and the line would not be needed at all for the foreseeable future without the Customer's new data center.⁵¹⁷ The Staff further argued that the application of Dominion's line extension policy to the proposed Haymarket transmission line is not preempted by federal law.⁵¹⁸

The Coalition argued in its Post-Hearing Brief that the Haymarket transmission line falls within the definition of an Approach Line under the plain language of Section XXII and the Customer should, therefore, be required to pay the transitional cost to underground the transmission

⁵¹⁴ Section XXII A 12 defines "transitional cost" as the amount by which the estimated cost of providing underground facilities exceeds the estimated cost of providing comparable overhead facilities along Dominion's preferred route.

⁵¹⁵ Ex. 19 at 19.

⁵¹⁶ Staff Post-Hearing Brief at 3, 8-18.

⁵¹⁷ *Id.* at 3.

⁵¹⁸ *Id.* at 11-15.

line in accordance with the cost allocation formula in Section XXII.⁵¹⁹ The Coalition further argued that even if the language of Section XXII is found to be ambiguous by the Commission, the language in Section XXII must be construed against Dominion and in the Coalition's favor.⁵²⁰

In its Post-Hearing Brief, Dominion argued that the Commission should disregard the Staff's suggestion that the Customer could be charged a transitional cost for undergrounding the Haymarket transmission line under Section XXII of its Terms and Conditions.⁵²¹ Dominion pointed out that the proposed Haymarket transmission line will be a networked, high voltage transmission line that will be operated by PJM, and the costs of the line will be allocated and recovered in accordance with the PJM OATT that is on file with FERC.⁵²² Dominion argued the PJM OATT is subject to FERC's exclusive jurisdiction, and any attempt to apply Section XXII to the Haymarket transmission line and allocate costs differently than prescribed by the PJM OATT is federally preempted.⁵²³

Dominion also argued that Section XXII was intended to apply to distribution lines, not transmission lines.⁵²⁴ In support of its argument, Dominion referred to the Company's direct testimony in its 2009 Going In and 2013 Biennial Review cases. In both cases, Dominion witnesses specifically testified that the proposed revisions to the Company's line extension policy relating to underground installations did not apply to transmission lines. Rather, the witnesses in both cases testified that the facilities targeted for underground installation were rated below 50 kV.⁵²⁵ The Company also referred to Staff testimony in both cases. According to Dominion, the Staff "filed testimony raising 'ambiguities' with the 2009 submittal, but none of those ambiguities, which were addressed by the Company in the 2013 Biennial Review filing of the tariff revisions, asserted the tariff was 'ambiguous' on whether it applied to overhead or underground transmission facilities."⁵²⁶

Dominion further argued that the only provisions where the Customer could be charged a transitional cost is if the Haymarket transmission line meets the definition of an "Approach Line," "Branch Feeder," or "Bulk Feeder" under Section XXII of the Terms and Conditions.⁵²⁷ However, Dominion asserted the Haymarket transmission line does not meet any of these definitions.

The Haymarket transmission line cannot be an Approach Line, according to Dominion, because an Approach Line is defined as facilities installed from an existing source to "the property

⁵¹⁹ Coalition Post-Hearing Brief at 7-9.

⁵²⁰ *Id.* 11-13.

⁵²¹ Dominion Post-Hearing Brief at 51-67.

⁵²² *Id.* at 51-55, 57-62.

⁵²³ *Id.*

⁵²⁴ *Id.* at 62-65.

⁵²⁵ In the 2009 Going In case, Dominion witness Julius M. Griles, Jr., was asked, "Do the proposed revisions to the line extension policy relate or apply in any way to transmission lines?" He responded, "No. The facilities targeted for expanded underground are rated below 50 kV." See Ex. 20. In Dominion's 2013 Biennial Review, Company witness Steven Eisenrauch was asked, "Do the proposed revisions to the line extension plan relate or apply in any way to transmission lines?" His response, "No. The facilities targeted for expanded underground installation are rated below 50 kV." See Ex. 19 at Attachment 14.

⁵²⁶ Dominion Post-Hearing Brief at 63 (citation omitted). Section XXII was first proposed in the Company's 2009 Going In case, but was not adopted due to a settlement between the parties and Staff. As a result, Section XXII was again proposed, and approved by the Commission, in the Company's 2013 Biennial Review.

⁵²⁷ Dominion Post-Hearing Brief at 65-67.

of the customer.”⁵²⁸ The Haymarket transmission line, however, will terminate at the Haymarket Substation, which will be on property owned by the Company.⁵²⁹ Dominion further argued that the true customer of the Haymarket transmission line is not the Customer developing the data center but the segment of Dominion acting as a wholesale customer or load serving entity (“LSE”).⁵³⁰ “In other words, the Customer developing the data center is not being served at transmission voltage and, therefore, is not a customer for purposes of the definition of Approach Line.”⁵³¹

Dominion further argued the Haymarket transmission line is not a Branch Feeder because a Branch Feeder is installed on the property of the customer.⁵³² Additionally, as noted above, the Haymarket transmission line is being provided to the Company as the LSE, not the Customer developing the data center.⁵³³

Dominion further pointed out that the definitions of Approach Line and Branch Feeder include the phrase “customer or developer requesting Electric Delivery Service.”⁵³⁴ Under Dominion’s tariff, Electric Delivery Service is defined as “Distribution Service, and the delivery of electricity under this tariff to Customers served at transmission level voltage, and related utility services, to the extent each is provided under this tariff.” Dominion pointed out that while the Customer will be receiving “distribution service,” that service will be through distribution circuits, not a transmission line.⁵³⁵ Moreover, the I-66 Hybrid Alternative is not providing distribution service, it is not providing transmission level voltage to the Customer, and it is not providing related utility service. Therefore, according to Dominion, the I-66 Hybrid Alternative cannot be an Approach Line or Branch Feeder.⁵³⁶

Additionally, Dominion argued the I-66 Hybrid Alternative is not a Bulk Feeder because such a facility “is generally understood to be a distribution term and, therefore, would not apply to transmission facilities.”⁵³⁷ Dominion further pointed to the rebuttal testimony of Company witness Koonce, who testified that in his 34 years of working for the Company in transmission, these terms (Approach Line and Branch Feeder) have never been applied in a transmission context, only distribution.⁵³⁸

Finally, Dominion cited the Virginia Supreme Court case of *Central Virginia Electric Cooperative v. State Corporation Commission*, 221 Va. 807, 814 (1981), which held that “the basic legal consideration in evaluating line extension charges is one of reasonableness; that is, the policy should not place an unreasonable burden on the customers or the [utility] as a whole.” Dominion argued that “[c]harging the Customer \$115 million under a state tariff for a FERC-jurisdictional

⁵²⁸ *Id.* at 65.

⁵²⁹ *Id.*

⁵³⁰ *Id.* at 65-66.

⁵³¹ *Id.*

⁵³² *Id.* at 66.

⁵³³ *Id.*

⁵³⁴ *Id.*

⁵³⁵ *Id.*

⁵³⁶ *Id.*

⁵³⁷ *Id.* at 66-67.

⁵³⁸ June 22 Tr. at 527-528.

asset when the Company made clear it should not apply and, indeed, by its own terms it does not apply, would be the epitome of unreasonableness.”⁵³⁹

Having considered the arguments of the parties and Staff, I find the Customer should not be charged a \$115.7 million transitional cost to underground the Haymarket transmission line. Not only would such a charge jeopardize the Customer’s new data center, which is already under construction, but it appears that Section XXII was never intended to be applied in the manner suggested by the Staff or the Coalition. I am also unaware of any case where the Commission has applied Dominion’s line extension policy, or, indeed, any public utilities’ line extension policy, to a transmission line.⁵⁴⁰ Additionally, the parties and Staff have not cited a single case in their Post-Hearing Briefs where the Commission has done so.

To be sure, the language of Section XXII is not a beacon of clarity when it comes to deciding this issue. There is obviously some degree of ambiguity in Section XXII as explained by Dominion’s initial belief that the line extension policy would apply to the transmission line it proposed in the Poland Road case, before reversing its position several months later. Moreover, if Section XXII is not ambiguous, as the Coalition argues, I question how the parties and Staff can have such a fundamental disagreement over whether transmission lines are subject to a transitional cost under Section XXII. I also agree with the Staff’s assertion that the language in Section XXII is somewhat ambiguous because it does not specifically limit its applicability to distribution facilities, thus rendering the applicability of Section XXII to transmission lines a valid question.

Accordingly, since the plain language of Section XXII does not answer this question, I find that Section XXII is ambiguous with respect to whether it applies to transmission lines.

When resolving this issue, it is important to remember that the Commission acts in a legislative capacity when it approves a utility’s rates or terms and conditions of service.⁵⁴¹ In other words, the Commission is delegated the authority to act on behalf of the Virginia General Assembly in such matters, and any rates or terms and conditions approved by the Commission have the same effect as laws enacted by the Virginia General Assembly. Accordingly, when resolving the ambiguity in Section XXII, I find the rules of statutory construction that apply to interpreting statutes enacted by the General Assembly should be used when interpreting Dominion’s line extension policy.⁵⁴²

⁵³⁹ Dominion Post-Hearing Brief at 67. (footnote omitted).

⁵⁴⁰ Even if Section XXII applied to the proposed Haymarket transmission line, it is doubtful that the Customer would be required to pay any additional costs if an overhead route is approved by the Commission. Under Section XXII, customers are only required to pay the amount, if any, by which the cost of the overhead line exceeds four times the continuing estimated annual revenue – less fuel charge revenue – that can be reasonably expected. As Staff witness Joshipura testified during the hearing, “typically these types of customers [i.e., data centers] have large enough revenue to cover the cost of overhead transmission lines.” June 22 Tr. at 313.

⁵⁴¹ See *Virginia Elec. & Power Co. v. State Corp. Comm’n*, 284 Va. at 741, 735 S.E.2d at 691 (“[W]hen the Commission is conducting a ratemaking procedure, it is exercising a legislative function delegated to it by the General Assembly.”) (citing *Potomac Edison Co. v. State Corp. Comm’n*, 276 Va. 577, 587, 667 S.E.2d 772, 777 (2008)); *Howell v. Chesapeake & Potomac Tel. Co. of Virginia*, 215 Va. 549, 211 S.E.2d 265, appeal dismissed, 423 U.S. 805, 96 S. Ct. 13, 46 L. Ed. 2d 26 (1975).

⁵⁴² The Coalition argued that the legal doctrine of *contra proferentem* should apply with interpreting the Company’s line extension policy. This doctrine holds that a document or contract must be construed against its drafter. However, I do

When a law, or in this case a tariff, is ambiguous, the primary question becomes one of intent. In other words, when Section XXII was approved by the Commission, did the Company and Commission intend for Section XXII to apply to transmission lines or not? While there are numerous rules of statutory construction that are utilized by courts to determine intent, I find that the history of Section XXII before the Commission provides the best evidence of the Commission's intent when approving the Company's line extension policy.

The history of Section XXII before the Commission does not support its applicability to transmission lines. Indeed, Dominion's witnesses supporting Section XXII in Dominion's 2009 Going In case and its 2013 Biennial Review testified that the proposed revisions to the Company's line extension policy for underground installations did not apply to transmission lines. Instead, Dominion's witnesses testified uniformly that the facilities targeted for underground installations under Section XXII are rated below 50 kV – which are distribution level facilities. On the basis of Dominion witness Eisenrauch's testimony in the Company's 2013 Biennial Review, stating that the proposed revisions targeted distribution facilities, and not transmission facilities, the revised line extension policy was approved by the Commission. There also is no language in the Commission's Final Order in the Company's 2013 Biennial Review indicating that Dominion's line extension policy was ever intended to apply to transmission lines. Indeed, the language in the Commission's Final Order approving Section XXII states, "We approve Dominion's proposed reforms to [Dominion's] line extension policy, which include certain revisions proposed by Staff and are designed to have a positive impact on *distribution system* reliability and to reduce the annual impact on customers requesting underground service." (emphasis added). Nowhere in the Commission's Final Order is it remotely suggested that the line extension policy for underground installations was intended to apply to transmission facilities.

Given the testimony supporting Section XXII before the Commission, the Commission's acceptance of the tariff revisions based on that testimony, the lack of language in the Commission's Final Order indicating the line extension policy would apply to transmission lines, and the language in the Commission's Final Order in the Company's 2013 Biennial Review expressly stating that the line extension revisions were designed to improve distribution system reliability, I find Section XXII was not intended by the Commission to apply to transmission lines.

Having found that Section XXII does not apply to the Haymarket transmission line, there is no need to address the federal preemption argument raised by Dominion. The federal preemption argument only needs to be addressed if the Commission finds Section XXII applies to transmission facilities.

not believe it is appropriate to use this doctrine when interpreting the Company's line extension policy under the facts of this case. *Contra proferentem* is generally a rule of last resort that is only applied where other means of resolving an ambiguity have failed. See e.g., *Gardiner, Kanya & Associates, P.C. v. Jackson*, 467 F.3d 1348 (2006); *Residential Mktg. Group v. Granite Inv. Group v. Granite Inv. Group*, 933 F.2d 546,549 (7th Cir. 1991). Here, there are numerous rules of construction that can be used to interpret the Company's line extension policy. Moreover, the Customer developing the data center could make the very same argument as the Coalition and claim that Section XXII should be construed in its favor and against Dominion. Accordingly, *contra proferentem* does not render much, if any, assistance when resolving the ambiguity in the tariff.

(c) Prince William County's Comprehensive Plan

The County requested the Commission to consider its Comprehensive Plan when deciding this case. As mentioned earlier in this Report, the County contends the I-66 Hybrid Alternative Route is the only route that is "consistent" with its Comprehensive Plan. In accordance with the County's request, I have considered its Comprehensive Plan when making my findings and recommendations in this case. However, I find the Commission should not underground the proposed Haymarket transmission line in order to be "consistent" with the County's Comprehensive Plan.

The definition of "consistent" is "marked by harmony" or "agreement."⁵⁴³ However, there is nothing in the Code that requires the Commission's routing decision to be harmonious with or in agreement with the County's Comprehensive Plan. If that were the case, a locality could simply adopt a comprehensive plan that would require the undergrounding of all transmission lines within its borders and the Commission would be powerless to approve overhead construction because it would not be "consistent" with a locality's comprehensive plan. This would, in effect, transfer the construction and routing authority over transmission lines from the Commission to localities, a result that is plainly contrary to the duties imposed upon the Commission by the Code.

I am also not aware of a single Commission case that has approved the underground construction of a transmission line based solely on a locality's comprehensive plan. While § 56-46.1 of the Code requires the Commission to "consider" a locality's comprehensive plan when requested to do so, there is nothing in the Code that prevents the Commission from approving a transmission that may be inconsistent with certain aspects of a locality's comprehensive plan. This is because many other factors, such as transmission line's cost, may outweigh the developmental goals and objectives contained in a locality's comprehensive plan, thus warranting approval of a transmission line that differs from the route supported by a locality.

Accordingly, when considering the proposed Haymarket transmission line, the Commission should not attempt to approve a route that is "consistent," harmonious, or in agreement with the County's Comprehensive Plan. Rather, the Commission should only "consider" the County's Comprehensive Plan, as required by the Code, and route the line in such a way as to mitigate any adverse impacts on the developmental objectives and goals of the County's Comprehensive Plan realizing, of course, there will always be some adverse impacts of a transmission line that cannot be avoided, even for underground installations.

One provision of the County's Comprehensive Plan that cannot be complied with relates to the corridors established for transmission lines rated at 150 kV or more. As discussed earlier in this Report, one complaint repeatedly voiced during the hearings is that the proposed Haymarket transmission line is outside the designated corridors for transmission lines specified by the County's Comprehensive Plan. However, there are no designated transmission line corridors west of the ROW that contains Dominion's Line #124 that could be used to serve the Customer's new data center. Accordingly, in order to get power to the Customer's new data center, the Haymarket

⁵⁴³ Merriam-Webster's On-Line Dictionary.

transmission line must, by necessity, depart from the designated corridors set forth in the County's Comprehensive Plan.

The proposed I-66 Overhead Route, as well as the other overhead alternative routes in Dominion's Application, also will impact historic assets in the area, which are protected under the County's Comprehensive Plan. The Comprehensive Plan also contains Community Design Goals, which are intended to promote quality development and a quality visual environment throughout the County. One of the means the County uses to promote a quality visual environment is the Comprehensive Plan's guidelines encouraging the undergrounding of utility lines. These are all laudable goals, but they do not supersede the Commission's duties and obligations under the Code with respect to the siting and construction of transmission lines.

Accordingly, I find the proposed Haymarket transmission line should not be constructed underground so the line can be "consistent" with the County's Comprehensive Plan. Rather, I find that the Commission should only "consider" the Comprehensive Plan when deciding this case, and approve a route that minimizes, to the extent possible, any adverse impacts on the plan's developmental goals and objectives.

(d) Overhead Route that reasonably minimizes adverse impacts in the area

Having found the proposed Haymarket transmission line should not be undergrounded, the central question becomes which of the remaining four overhead routes best reasonably minimize adverse impacts on the environment, scenic assets, and historic districts in the area? This routing issue, in my opinion, can be decided through a simple process of elimination.

First, one of the overhead routes, the Railroad Alternative Route, is no longer a viable option because the County has indicated it will not give Dominion consent to construct an overhead transmission line through its open space easement. While public service corporations, such as Dominion, are granted the right of eminent domain under the Code, they cannot condemn any property interests owned by a county, city, or town.⁵⁴⁴ Accordingly, the Railroad Alternative Route is no longer a viable route, and it must be removed from the Commission's consideration.

This leaves only three overhead routes that can be considered for the Haymarket transmission line; namely, the proposed I-66 Overhead Route, the Carver Road Alternative Route, and the Madison Alternative Route. While the three remaining overhead routes have differing impacts on the environment, scenic assets, and historic resources in the Haymarket load area, I find that the proposed I-66 Overhead Route should not be approved by the Commission. The proposed I-66 Overhead Route, while the cheapest and shortest route available between the tap point on converted Line #124 and the proposed Haymarket Substation, would have significant and permanent visual impact on hundreds, if not thousands, of people residing along I-66, including

⁵⁴⁴ Section 56-49 of the Code grants public service corporations, such as Dominion, the power of eminent domain to acquire property interests of any "person" necessary for the construction and operation of its transmission lines. However, the definition of "person" in § 56-1 only "includes individuals, partnerships, limited liability companies, and corporations." The definition does not include counties or municipalities, thereby preventing Dominion from exercising its power of eminent domain and acquiring an overhead easement from the County.

those people residing in the Parks at Piedmont, Crossroads Village, Heritage Hunt, Heathcote Commons, Piedmont Mews, and many other subdivisions in the vicinity of I-66.⁵⁴⁵

As shown in Table 4-1 of Staff witness McCoy's direct testimony, there are 68 townhome/condominium units, 17 townhome/condominium structures, and 5 single family homes located within 100 feet of the proposed I-66 Overhead Route.⁵⁴⁶ In addition, there are 151 townhome/condominium units, 32 townhome/condominium structures, and 15 single family homes located within 200 feet of the proposed I-66 Overhead Route. Finally, there are 565 townhome/condominium units, 109 townhome/condominium structures and 114 single family homes located within 500 feet of the proposed I-66 Overhead Route. It also is important to remember that these measurements are taken from the centerline of the proposed 100-foot ROW for the monopole structures that would run from the tap point on converted Line #124 to the proposed Haymarket Substation, which means that the edge of the I-66 Overhead Route's ROW would be 50 feet or less from numerous residences located along I-66.

The evidence presented in this case indicates that the proposed I-66 Overhead Route transverses a very congested area that would significantly, negatively, and permanently impact hundreds, if not thousands, of residents in the vicinity of I-66. In addition, there are no means available to mitigate the adverse impacts on these people. The available space between I-66 and the residences in the area is so tight that little, if any, screening opportunities are available to plant trees or other vegetation to shield the homeowners' views of the line. Indeed, many of the residents would walk out their back door and look up to see 112-foot tall towers and/or hanging conductors in very close proximity to their homes, far less than 100 feet away in many cases. In my opinion, the adverse impacts on the residents along the I-66 Overhead Route are so severe they outweigh any adverse environmental impacts (such as the greater impact on wetlands, streams, and forested areas) that would occur if the Carver Road Alternative Route or Madison Alternative Route is approved for the transmission line.

Another concern I have with the proposed I-66 Overhead Route is if I-66 is widened again in the future, which is highly likely given the sustained growth in northern Virginia. When this occurs, there would be no room to rebuild the line overhead along I-66 unless the Company condemned numerous homes, townhouses and condominiums along I-66, placed the line underground, or relocated the line away from the I-66 corridor. This, of course, would add considerable additional expense that would need to be recovered from Dominion's ratepayers in the future. Simply put, while collocating transmission lines along roadways is an acceptable routing practice to lessen the adverse impacts of transmission lines, such is not the case here.

Given my finding that the proposed I-66 Overhead Route should not be approved by the Commission, this leaves only two overhead routes available for the Haymarket transmission line; namely, the Carver Road Alternative Route and the Madison Alternative Route. Of these two alternatives, I find the Carver Road Alternative Route is clearly the superior route, and it is the route that I recommend be approved by the Commission. There are several reasons why the Carver Road Alternative Route is superior to the Madison Alternative Route.

⁵⁴⁵ See June 21 Tr. at 196-197, where Staff witness McCoy testified the I-66 Overhead Route would have "a tremendous visual impact to the residents adjoining I-66."

⁵⁴⁶ Ex. 17 (McCoy Direct) at Table 4.1.

First, the Carver Road Alternative Route is shorter and less expensive than the Madison Alternative Route. The Carver Road Alternative Route is 6.7 miles in length and the Madison Alternative Route is 8.2 miles in length. Additionally, the Carver Road Alternative Route's estimated cost is \$61.9 million versus the Madison Alternative Route's estimated cost of \$67.8 million.

Second, the Carver Road Alternative Route also has fewer single family homes and townhomes/condominiums within 500 feet, 200 feet, and 100 feet of the transmission line than the Madison Alternative Route.

Third, the Carver Road Alternative Route will have less impact on historic resources in the area than the Madison Alternative Route. As indicated in the DHR's review of Dominion's Application, which is attached to the DEQ Report, the Madison Alternative Route will have a "moderate" impact⁵⁴⁷ on three historic sites in the area, including, the Buckland Mills Battlefield, the Second Battle of Manassas, and Woodlawn, a historic home in the area eligible for listing in the National Register of Historic Places. The Carver Road Alternative Route, on the other hand, will have a "moderate" impact on only two historic sites, including, the Buckland Mills Battlefield and the Second Battle of Manassas. In addition, the Madison Alternative Route would have a much greater impact on the Journey Through Hallowed Ground (James Madison Highway (US 15)) than the Carver Road Alternative Route. The Madison Alternative Route would parallel the Journey Through Hallowed Ground for approximately 1.3 miles while the Carver Road Alternative Route would parallel the Journey Through Hallowed Ground for 0.1 mile. Therefore, the adverse impact of the Carver Road Alternative Route on historic resources in the area is far less than the Madison Alternative Route.

The Carver Road Alternative Route will also address some of the concerns expressed by public witnesses. By moving the line south of I-66 and looping it below the Somerset Crossing subdivision, the line would not run through the Town. This would substantially reduce, if not totally eliminate, any visual impacts on historic resources in the Town. Indeed, it appears the only historic site in the Town that could possibly be impacted by the Carver Road Alternative Route is St. Paul's Episcopal Church, which will be approximately .2 mile from the route at its closest point of approach. However, there are trees in the area that would screen St. Paul's Episcopal Church from the transmission line, at least during leaf-on conditions. Moreover, there is other development in the vicinity of St. Paul's Episcopal Church which will tend to moderate any adverse visual impacts from the line.

The Carver Road Alternative Route would also move the line away from the greatest concentration of residences in the area. The line would not be visible to most of the subdivisions located along I-66, as well as the Greenhill Crossing subdivision located south of I-66. There would be some visual impact on the Somerset Crossing subdivision, but the impact would be limited to those residing along the southern edge of the subdivision. Simply put, the Carver Road Alternative Route would reduce considerably the visual impact on people in the area because it

⁵⁴⁷ Moderate impacts "[i]nclude viewsheds with expansive views of the transmission line, more dramatic changes in the line and tower height, and/or an overall increase in the visibility of the route from historic properties." See Ex. 27 (DHR Review).

would move the transmission line away from those areas with the greatest concentration of residences.

Finally, after considering the County's Comprehensive Plan, it appears that the Carver Road Alternative Route will minimize the transmission line's impact on the plan's developmental goals and objectives, particularly the plan's focus on preserving the rural nature of the County. Several witnesses testified during the hearings about the importance of preserving the Rural Crescent, which covers approximately 80,000 acres of rural land and low density development located in the vicinity of the Project.⁵⁴⁸ The Carver Road Alternative Route would have very little impact on the Rural Crescent because the line would be located on the eastern edge of the Rural Crescent where there is already significant modern development. Modern development on the eastern edge of the Rural Crescent near the termination point of the Carver Road Alternative Route includes the Customer's existing data center, FST's property, a Kohl's, a Walmart, a soon to be developed Home Depot, and significant additional development located on the western boundary of the Town in the vicinity of the intersection of the James Madison Highway (US 15) and John Marshall Highway (SR 55). Accordingly, I do not believe the Carver Road Alternative Route will have a significant adverse impact on the Rural Crescent, nor will the route significantly impact the developmental goals and objectives of the County's Comprehensive Plan.

The County also pointed out that the Haymarket transmission line would cross the John Marshall Highway (SR 55) and James Madison Highway (US 15), both of which are designated as Heritage Corridors in the County's Comprehensive Plan. However, the transmission line's crossing of the John Marshall Highway (SR 55) is significantly east of the Town in an area that already has commercial development on the south side of the highway, and is scheduled for significant commercial development on the north side of the highway by Southview, John Marshall Commons, and Village Place at Gainesville.⁵⁴⁹ In addition, as mentioned previously, the Carver Road Alternative Route's crossing of James Madison Highway (US 15) is in an area that already encumbered by significant modern development in the vicinity of the transmission lines crossing of James Madison Highway (US 15).

In conclusion, I find the Carver Road Alternative Route should be approved by the Commission because it is the overhead route that best reasonably minimizes adverse impacts on the environment, scenic assets, and historic resources in the Haymarket load area.

3. Health and Safety

While several public witnesses expressed concerns over EMF exposure from the proposed Haymarket transmission line and possible adverse health effects, I find there was no scientific evidence introduced in this case showing that transmission lines represent a hazard to human health. This is a topic that has been studied extensively in the past. It is the general consensus of health agencies reviewing the available research on EMF that the levels associated with the operation of a 230 kV double circuit transmission line, or other common sources of EMF in the environment, do

⁵⁴⁸ A graphic depiction of the Rural Crescent is located in Ex. 10 (Environmental Routing Study) at Appendix C, Figure 7.

⁵⁴⁹ See Written comments filed on June 16, 2016 by Joseph J. Contrucci, Esq., explaining the existing and future residential and commercial development in this area.

not cause any long-term adverse health effects. This finding is consistent with the Virginia Department of Health's latest report on the subject that was completed in 2000.

4. Reliability

Section 56-46.1 A of the Code requires the Commission to "consider any improvements in service reliability that may result from the construction of the [Haymarket transmission line]." The undisputed evidence in this case indicates that the proposed Project will improve the reliability of Dominion's system in the Haymarket load area. First, with the additional capacity from the proposed Project, the Company will have a greater opportunity to switch load to other available circuits in the event of an outage on any given circuit, which can result in shorter times to restore electric service. Second, by constructing new distribution circuits from the proposed Haymarket Substation, the length of the circuits to certain customers in the Haymarket load area will be reduced from six miles to less than one mile, thus promoting greater reliability for those customers.

5. Economic Development Impacts

Section 56-46.1 A of the Code also requires the Commission to consider the effect of the proposed facility on economic development within the Commonwealth. I find the proposed transmission line will have a positive impact on economic development. First, and foremost, the transmission line will increase the capacity on Dominion's system serving the Haymarket load area. This will allow the Customer to ramp up its data center operations as originally planned, and accommodate future residential and commercial development in western Prince William County. While the construction of the transmission line and new data center will not create a significant number of permanent jobs for those in the area, the new data center will generate significant tax revenues that will benefit the County and its residents.

Additionally, as the Customer continues to ramp up its data center operations, the available capacity on Dominion's three distribution circuits will continue to diminish and eventually reach a point where overloading will occur if the Project is not constructed, thus foreclosing any future development in the Haymarket load area. The proposed Haymarket transmission line will eliminate the potential loading problems on Dominion's distribution system, and it will allow future economic development to continue unimpeded in the Haymarket load area. I, therefore, find the Haymarket transmission line will have a very favorable, and positive, impact on future economic development.

IV. FINDINGS AND RECOMMENDATIONS

Based on the evidence presented in this case, and for the reasons set forth herein, I find that:

(1) The Project is needed so Dominion can continue to provide reasonably adequate service to its customers at reasonable and just rates;

(2) The Carver Road Alternative Route reasonably minimizes the Project's impact on the environment, scenic assets, and historic resources;

- (3) The Project utilizes existing right-of-way to the maximum extent practicable;
- (4) There are no adverse environmental impacts that would preclude the construction and operation of the Project;
- (5) There are no adverse public health or safety issues associated with the Project;
- (6) The Project will have a positive impact on the economy in Prince William County and the Town of Haymarket by allowing Dominion to provide service to a new data center, thereby generating significant tax revenues for Prince William County, and by allowing current and future residential, commercial, and industrial development to continue unimpeded in the area;
- (7) The Project will improve Dominion's system reliability in the area;
- (8) The Commission should condition approval of Dominion's Application on the Company's compliance with the *Summary of General Recommendations* contained in the DEQ Report;
- (9) The Commission should not condition approval of Dominion's Application on the *Alternative Recommendations* contained in the DEQ Report, wherein DEQ's Office of Wetlands and Stream Protection, the Virginia Department of Historic Resources, and Prince William County recommended underground construction of the proposed transmission line; and
- (10) A certificate of public convenience and necessity should be issued for the Company to construct and operate the Project.

I therefore **RECOMMEND** the Commission enter an order that:

- (1) **ADOPTS** the findings and recommendations in this Report;
- (2) **ISSUES** a certificate of public convenience and necessity to the Company to construct and operate the Project; and
- (3) **PASSES** the papers herein to the file for ended causes.

COMMENTS

The parties are advised that any comments (Section 12.1-31 of the Code of Virginia and Commission Rule 5 VAC 5-20-120 C) to this Report must be filed with the Clerk of the Commission, in writing, in an original and fifteen (15) copies, within twenty-one (21) days from the date hereof. The mailing address to which any such filing must be sent is Document Control Center, P.O. Box 2118, Richmond, Virginia 23218. Any party filing such comments shall attach a

certificate to the foot of such document certifying that copies have been mailed or delivered to all counsel of record and any such party not represented by counsel.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Glenn P. Richardson", written over a horizontal line.

Glenn P. Richardson
Hearing Examiner

Document Control Center is requested to mail a copy of the above Report to all persons on the official Service List in this matter. The Service List is available from the Clerk of the State Corporation Commission, c/o Document Control Center, 1300 East Main Street, Tyler Building, First Floor, Richmond, VA 23219.

ATTACHMENT A

